Serial No. 10/607,767 Docket No. 4296-164 US

Amendments to the Claims:

Listing of Claims:

1. (Currently amended) A method for the production of acrylic acid which comprises the steps of:

- (a) supplying one or more gas components selected from the group consisting of propylene, propane and acrolein to a reactor for catalytic gas phase oxidation,
 - (b) obtaining an acrylic acid-containing gas by catalytic gas phase oxidation,
- (c) introducing said acrylic acid-containing gas and supplying an aqueous absorbing solvent into an acrylic acid absorbing column, whereby an aqueous acrylic acid-containing solution is absorbed onto said acrylic acid absorbing column
- (d) obtaining said aqueous acrylic acid-containing solution absorbed onto said acrylic acid absorbing column,
- (e) obtaining crude acrylic acid from said aqueous acrylic containing solution in an azeotropic dehydration column by dehydration;
- (f) introducing a polymerization inhibitor to said azeotropic dehydration column at any point between a point for supplying said aqueous acrylic acid containing solution and a point for supplying a reflux and not including the point for supplying said aqueous acrylic acid containing solution material and the point for supplying the reflux;
- (g) optionally removing a low boiling substance from said aqueous acrylic acidcontaining solution by using an azeotropic distillation column,
- (h) obtaining acrylic acid and a high boiling substance-containing solution by removing the high boiling substance from said crude acrylic acid, and subsequently
- (i) recovering acrylic acid by thermally decomposing an acrylic acid oligomer contained in said high boiling substance-containing solution, and
- (j) supplying the acrylic acid recovered by thermally decomposing said acrylic acid oligomer from step (i) to said azeotropic dehydration column.
- 2. (Currently amended) A method according to claim 1, which further comprises performing the step of;

thermally decomposing the oligomer contained in said high boiling substance-containing

Serial No. 10/607,767 Docket No. 4296-164 US

solution thereby lowering the a concentration of maleic acid contained in the recovered acrylic acid solution to a level of not higher than 5 wt. %.

- 3. (Previously presented) A method according to claim 1, which further comprises the steps of;
- (j) for esterfying the acrylic acid obtained in said step (i) thereby producing an acrylic ester, or
- (k) for further purifying the acrylic acid obtained in said step (i) thereby obtaining acrylic acid of high purity.
- 4. (Previously presented) A method according to claim 3, further comprising the step of cooling the aqueous acrylic acid-containing solution in a tank and/or a cooler between said steps (b) (k) and the subsequent step.
- 5. (Previously presented) A method for the production of a polyacrylic acid or salt thereof characterized by producing said polyacrylic acid or salt by using the acrylic acid of high purity obtained at the step (k) set forth in claim 3 in a polymerization process.
- 6. (Previously presented) A method according to claim 5, further comprising the step of cooling the aqueous acrylic acid-containing solution in a tank and/or a cooler between said step (k) and a step for producing the polyacrylic acid or salt.
- 7. (Previously presented) A method for the production of a polyacrylic acid or salt thereof, characterized by producing said polyacrylic acid or salt by using the acrylic acid of high purity obtained at the step (k) set forth in claim 4 in a polymerization process.
- 8. (Previously presented) A method according to claim 1, wherein said distillation column is at least one member selected from the group consisting of the azeotropic dehydration column, the heavy-ends cut column and the maleic acid separation column.
- 9. (Previously presented) A method according to claim 1, wherein said distillation column is at least one member selected from the group consisting of the azeotropic dehydration column and the heavy-ends cut column.
- 10. (Previously presented) A method according to claim 1, wherein said thermal decomposition of the acrylic acid oligomer to acrylic acid in the step (i) is carried out at a temperature of 120° 220°C.

Serial No. 10/607,767 Docket No. 4296-164 US

11. (Previously presented) A method according to claim 1, wherein said thermal decomposition of the acrylic acid oligomer is carried out in a thermal decomposition vessel.

- 12. (Canceled).
- 13. (Canceled).
- 14. (Canceled).
- 15. (Canceled).
- 16. (Canceled).
- 17. (Canceled).
- 18. (Canceled).
- 19. (Canceled).
- 20. (Canceled).
- 21. (Canceled).
- 22. (Canceled).
- 23. (Canceled).
- 24. (Canceled).
- 25. (Canceled).
- 26. (Canceled).